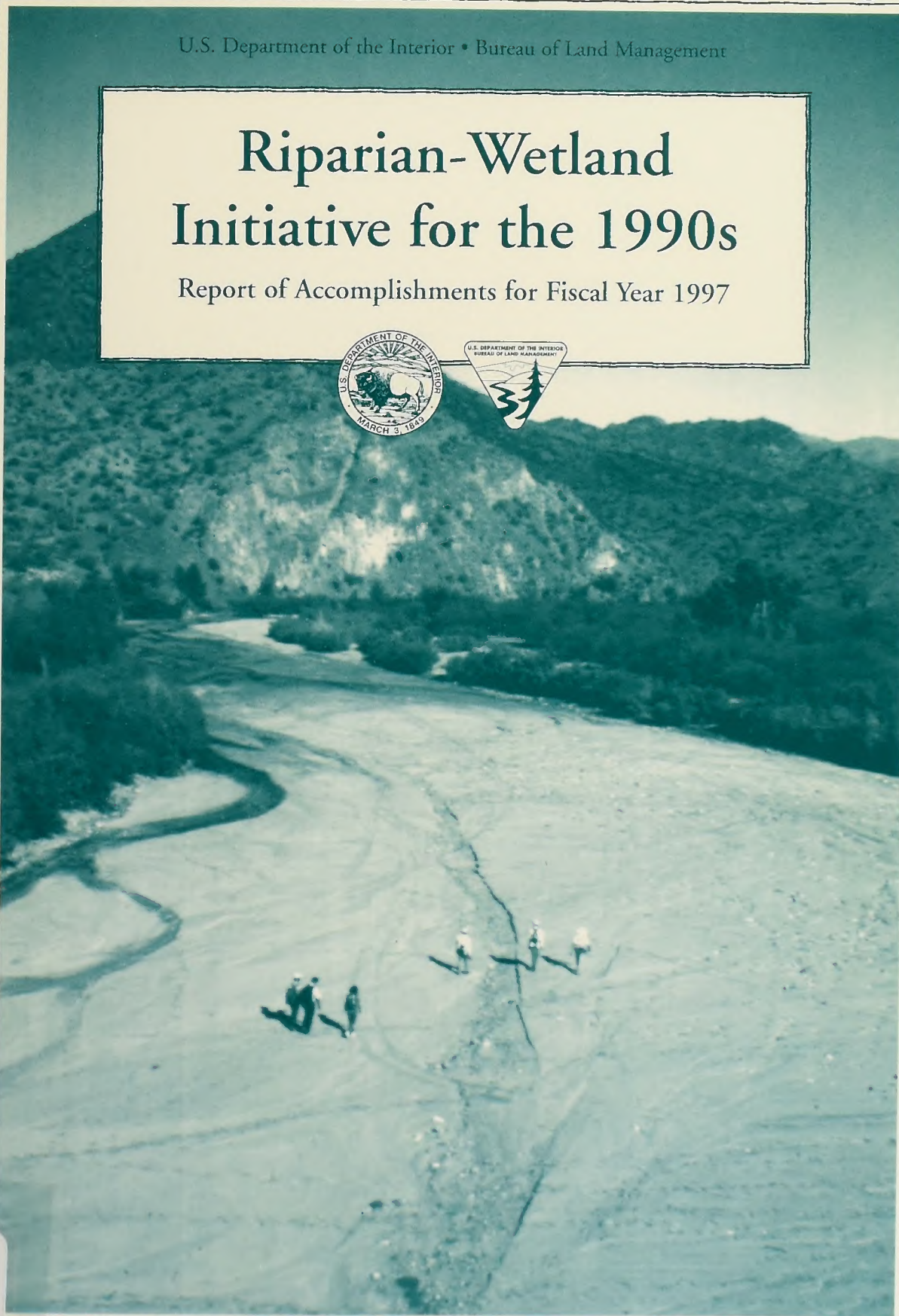




U.S. Department of the Interior • Bureau of Land Management

Riparian-Wetland Initiative for the 1990s

Report of Accomplishments for Fiscal Year 1997



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Front and back cover photo: Santa Maria River Riparian assessment in Arizona (photo by Ron Hooper).

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Mission of the U.S. Department of the Interior

As the Nation's principal conservation agency, the U.S. Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, and preserving the environmental and cultural values of our national parks and historic places.

The Interior Department also assesses our mineral resources and works to ensure that their development is in the best interest of all the people.

In addition, the Department has a major responsibility for American Indian reservation communities and for people who live in the Island Territories under United States administration.

After many years of discussing a "Home Department," Congress in 1849 decided that the creation of a Department of the Interior had become necessary to administer the vastly expanded land holdings acquired by the Federal Government through the Louisiana Purchase of 1803, the Mexican war of 1846-48, and the 1846 treaty with Great Britain by which the United

States acquired the Oregon Territory. In addition to the General Land Office, the custodian of these lands, the new Interior Department was given functional responsibility for the Office of Indian Affairs, Pension Office, Patent Office, and several smaller agencies, including the Census of the United States.

Over the many years since that time, other duties have been added and spun off, and the Department of the Interior's role has changed from that of a general housekeeper for the Federal Government to that of custodian of its natural resources.

The Department manages approximately 430 million acres of Federal lands, including over 370 national parks, about 500 wildlife refuges, and vast areas of multiple-use lands. The Interior Department's agencies are the National Park Service, U.S. Fish and Wildlife Service, Bureau of Land Management, Minerals Management Service, Office of Surface Mining Reclamation and Enforcement, U.S. Geological Survey, Bureau of Reclamation, and the Bureau of Indian Affairs

Mission of the Bureau of Land Management

It is the mission of the Bureau of Land Management to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations.



Introduction



*Volunteers at work on Oregon's Bridge Creek
adding to channel structure and complexity (photo by Hugh Barrett).*

This is the seventh annual accomplishments report of the Riparian-Wetland Initiative for the 1990s, a blueprint for managing and restoring riparian-wetland areas that cover about 16,016,952 acres of wetlands and 183,035 miles of streams on BLM-managed lands. Overall, riparian-wetland areas account for more than 8 percent of the 264 million acres of land under BLM management.

The BLM's Riparian-Wetland Initiative for the 1990s, signed in September 1991, included four goals:

- Restore and maintain riparian-wetland areas so that 75 percent or more are in proper functioning condition (PFC) by 1997;
- Protect riparian-wetland areas and associated uplands through proper management;
- Ensure an aggressive riparian-wetland information and outreach program; and

- Improve partnerships and cooperative restoration and management.

The initiative, which complements the Healthy Rangelands Strategy of President Clinton and Secretary of the Interior Bruce Babbitt, takes an interagency and interdisciplinary approach to the management of riparian-wetland areas. The rangelands strategy took effect in 1995.

This report highlights the BLM's accomplishments in riparian-wetland management during fiscal year 1997. It gives examples of the BLM's commitment to protecting riparian-wetland areas, which are both environmentally and economically valuable. It also shows how the agency is working to attain the land stewardship and wetlands conservation goals of the President and the Secretary.

Importance of Riparian-Wetland Areas

Riparian areas are lands adjacent to creeks, streams, lakes, and rivers. They are sometimes called “green ribbons” because the vegetation on waterway banks forms a ribbon-like pattern when seen from the air.

Because they contain scarce water and vegetation in the otherwise arid Western United States, these areas are important to fish and wildlife species, as well as to livestock. Since they filter the water flowing through them, riparian-wetland areas can affect the health of entire watersheds.

Wetlands are generally defined as areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support vegetation that is typically adapted for life in saturated soil. Wetlands include bogs, marshes, shallows, muskegs, wet meadows, estuaries, and riparian areas.

Riparian areas and wetlands are discussed together for purposes of reporting the BLM’s progress in meeting its national goals.

Estimated Riparian-Wetland Acreage by State
(most recent data available)

State	BLM-Admin. Land	Standing-Water Wetland (Lentic) Acres	Flowing-Water Riparian (Lotic) Miles
Alaska	86,908,060	15,605,650	144,304
Arizona	14,252,778	21,902	860
California	14,556,074	62,158	3,500
Colorado	8,296,512	7,642	4,359
Eastern States	1,183,240*	4,300	10
Idaho	11,847,328	13,469	3,904
Montana	8,399,328**	62,514	4,853
Nevada	47,840,569	33,659	2,257
New Mexico	12,772,711***	12,663	433
Oregon/Wash.	16,603,849	153,711	6,714
Utah	22,877,663	18,824	4,938
Wyoming	18,390,506****	20,461	6,903
Total	263,929,258	16,016,952	183,035

* Includes Alabama, Arkansas, Florida, Illinois, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Missouri, and Wisconsin

** Includes North Dakota and South Dakota

*** Includes Oklahoma

**** Includes Nebraska



Thousand Springs-Chilly Slough Wetlands Conservation Project in the Challis Resource Area in Idaho is a large (3,800 acres) montane wetland, rare for its size and location, surrounded by natural shrub-steppe vegetation. It is a naturally functioning wetland with almost no history of artificial manipulation. More wildlife species have been recorded at this site than in any other area in central Idaho. The project includes habitat acquisition, restoration, and enhancement. Partners include the Idaho Department of Fish and Game, Ducks Unlimited, The Nature Conservancy, Rocky Mountain Elk Foundation, North American Wetland Conservation Council, and Bureau of Land Management (photo by Ervin Cowley).

National Riparian Service Team



Riparian Proper Functioning Condition Assessment Training session conducted by the Idaho Training Team on Little Sand Creek in northern Idaho (photo by Ervin Cowley).

On March 26, 1996, the agency heads of the USDI Bureau of Land Management and the USDA Forest Service signed a letter agreeing to aggressively implement a cooperative management strategy to accelerate the restoration and improved management of riparian-wetland areas in the western United States.

The National Riparian Service Team (NRST) and an extended riparian coordination network were created to focus efforts on this strategy of cooperative riparian restoration. The mission statement of the NRST is simply "healthy streams through bringing people together." Restoration will not happen through regulation, changes in the law, increases in money, or any of the other traditional bureaucratic approaches. It will only occur

through the integration of ecological, economic, and social factors, and participation by all affected interests.

The NRST is a service-oriented interagency team that emphasizes collaboration to accomplish riparian-wetland restoration objectives. The team serves as a catalyst for this effort. The NRST is focused on providing consulting and advisory services, training, and program review and evaluation. The vast majority of work is done through the extended network of associates both within and outside the government. Within government, this work is assisted by a network of riparian program coordinators throughout each agency and by state training cadres.

Proper Functioning Condition



Montana BLM specialists examine a successful riparian grazing system, 2 years after implementation, along eastern Montana's Cottonwood Creek (photo by Dan Hinckley).

A riparian-wetland area is healthy and functioning when adequate vegetation, land form, or large woody debris is present to dissipate energy associated with high water flow. A healthy riparian-wetland area exhibits certain characteristics, such as:

- ~ Purifying water by removing sediments as water moves through;
- ~ Reducing the risk of flood damage;
- ~ Reducing streambank erosion;
- ~ Increasing available water by holding water in streambanks and aquifers;
- ~ Maintaining instream flows and streambanks;
- ~ Increasing ground-water supplies;
- ~ Supporting a diversity of wildlife and plant species;
- ~ Maintaining habitat for healthy fish populations;
- ~ Providing water, forage, and shade for livestock; and
- ~ Creating opportunities for recreationists to fish, camp, picnic, and relax.

(Refer to the Definitions section later in this report for more information on this and other condition classes.)

What It Is - What It Isn't

Proper Functioning Condition (PFC) is:

A methodology for assessing the physical functioning of riparian and wetland areas. The term PFC is used to describe both the *assessment* process and a defined, on-the-ground *condition* of a riparian-wetland area. In either case, PFC defines a minimum or starting point.

The PFC *assessment* provides a consistent approach for assessing the physical functioning of riparian-wetland areas by considering hydrology, vegetation, and soil/landform attributes. The PFC assessment synthesizes information that is fundamental to determining the overall health of a riparian-wetland area.

The on-the-ground *condition* termed PFC refers to how well the physical processes are functioning. PFC is a state of resiliency that will allow a riparian-wetland system to hold together during a 25- to 30-year flow event, sustaining that system's ability to produce values related to both physical and biological attributes over time.

Proper Functioning Condition is *not*:

The sole methodology for assessing the health of the aquatic or terrestrial components of a riparian-wetland area.

A *replacement for inventory* or monitoring protocols designed to yield information on the

“biology” of the plants and animals dependent on the riparian-wetland area.

Desired (future) condition; it cannot address the actual condition of habitat for plants and animals, although it can provide some definite clues about habitat condition.

Condition of Riparian-Wetland Areas



Idaho's Rock Creek in the Shoshone Resource Area is typical of many high desert riparian areas (photo by Ervin Cowley).

The following tables and graphs (on pages 7, 8, and 9) depict the condition of riparian-wetland areas on BLM-managed lands for the lower 48 States in fiscal year 1997. (For information on Alaska, see page 8.) Assessments planned for

riparian-wetland areas now in the "unknown" category are expected to show similar distribution in the proper functioning, functional-at risk, and nonfunctional categories.

Condition of Riparian-Wetland Areas by Class in FY1997
(Lower 48 States)

Flowing-Water (Riparian) Areas in Miles			Standing-Water (Wetland) Areas in Acres		
Condition Class	% of All Miles	% of Miles Assessed	Condition Class	% of All Miles	% of Miles Assessed
Proper Functioning Condition	31*	41.5**	Proper Functioning Condition	36	74
Functional-at Risk (susceptible to degradation)	33	44.5	Functional-at Risk (susceptible to degradation)	11	22
Nonfunctional	10	14	Nonfunctional	1	4
Unknown	26***	(Not applicable)	Unknown	52	(Not applicable)

* That is, 31% of all riparian miles on BLM land are known to be in proper functioning condition.

** That is, 41.5% of the riparian miles that have been assessed by the BLM are known to be in proper functioning condition.

*** That is, 26% of all riparian miles on BLM land are in the "unknown" category, meaning the BLM has not yet determined their condition.

What follows is information showing the functioning condition of riparian-wetland areas on BLM-managed lands at the end of fiscal year 1997. The condition classes are shown by State in miles for streams and acres for wetlands. There are four

classes: Proper Functioning Condition, Functional-At Risk, Nonfunctional, and Unknown. These terms are defined in the section that follows this information.

	Flowing-Water Riparian Miles	Standing-Water Wetland Acres
Alaska:		
Proper Functioning		
Condition:	131,483	12,565,000
Functional-at Risk:	35	102,000
Nonfunctional:	818	650
Unknown:	11,968	2,938,000

Arizona:		
Proper Functioning		
Condition:	290	98
Functional-at Risk:	436	17,939
Nonfunctional:	21	0
Unknown:	113	3,865

California:		
Proper Functioning		
Condition:	1,750	52,500
Functional-at Risk:	1,023	7,608
Nonfunctional:	87	50
Unknown:	640	2,000

Colorado:		
Proper Functioning		
Condition:	1,942	5,337
Functional-at Risk:	1,415	1,004
Nonfunctional:	700	300
Unknown:	302	1,001

Eastern States:		
Proper Functioning		
Condition:	0	0
Functional-at Risk:	0	0
Nonfunctional:	0	0
Unknown:	10	4,300

Idaho:		
Proper Functioning		
Condition:	932	1,061
Functional-at Risk:	966	1,305
Nonfunctional:	352	236
Unknown:	1,654	10,867

Montana (includes North Dakota and South Dakota):		
Proper Functioning		
Condition:	2,048	4,444
Functional-at Risk:	2,225	693
Nonfunctional:	523	859
Unknown:	57	56,518

	Flowing-Water Riparian Miles	Standing-Water Wetland Acres
Nevada:		
Proper Functioning		
Condition:	361	3,551
Functional-at Risk:	543	785
Nonfunctional:	513	4,158
Unknown:	840	25,165

New Mexico (includes Oklahoma):		
Proper Functioning		
Condition:	137	603
Functional-at Risk:	184	440
Nonfunctional:	88	0
Unknown:	24	11,620

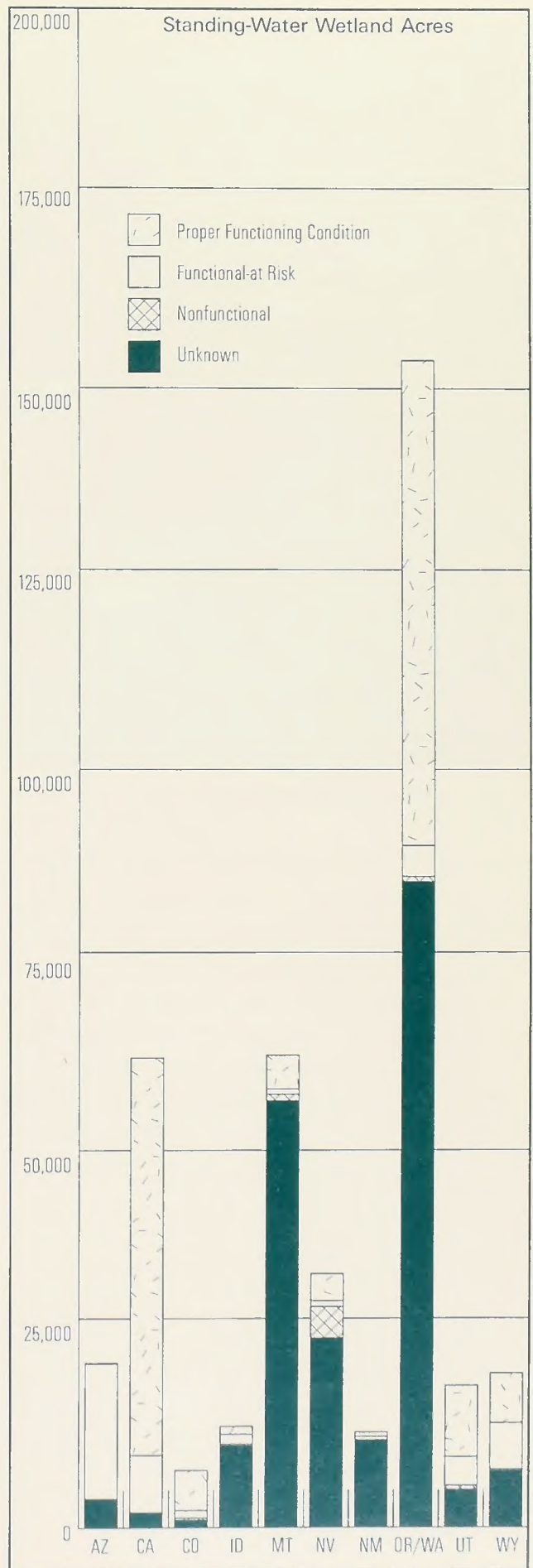
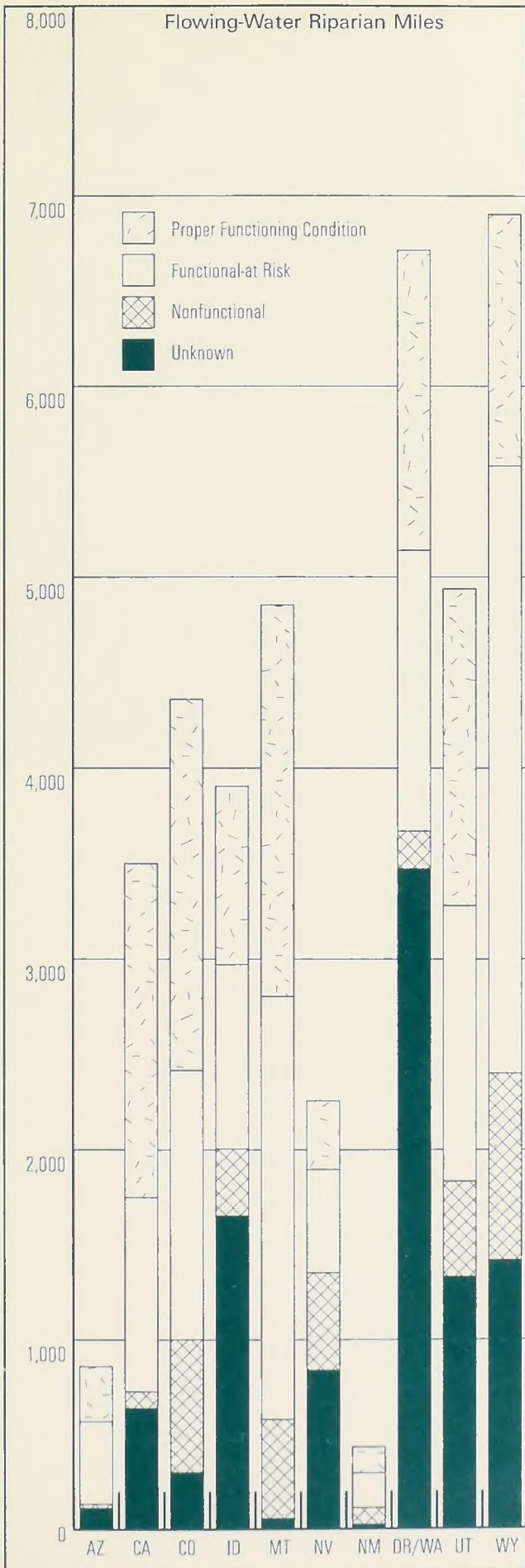
Oregon/Washington:		
Proper Functioning		
Condition:	1,575	63,685
Functional-at Risk:	1,469	4,058
Nonfunctional:	197	721
Unknown:	3,473	85,247

Utah:		
Proper Functioning		
Condition:	1,657	9,450
Functional-at Risk:	1,447	3,813
Nonfunctional:	502	559
Unknown:	1,332	5,002

Wyoming (includes Nebraska):		
Proper Functioning		
Condition:	1,322	6,590
Functional-at Risk:	3,180	6,146
Nonfunctional:	982	225
Unknown:	1,419	7,500

Total BLM		
Proper Functioning		
Condition:	143,497	12,712,318
Functional-at Risk:	12,923	145,791
Nonfunctional:	4,783	7,758
Unknown:	21,832	3,151,085

Total BLM (lower 48 States):		
Proper Functioning		
Condition:	12,014	147,318
Functional-at Risk:	12,888	43,791
Nonfunctional:	3,965	7,108
Unknown:	9,864	213,085



Definitions of Condition Classes

The functioning condition of riparian-wetland areas is determined by the interaction between geology, soil, water, and vegetation. The condition classes depicted in the preceding section are defined as follows:

- **Proper Functioning Condition.** Riparian-wetland areas are properly functioning when adequate vegetation, landform, or large woody debris is present to:
 - Dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality;
 - Filter sediment, capture bedload, and aid floodplain development;
 - Improve flood-water retention and ground-water recharge;
 - Develop root masses that stabilize stream-banks against cutting action;
- **Develop diverse ponding and channel characteristics** necessary for fish production, waterfowl breeding, and other uses; and
- Support greater biodiversity.
- **Functional-At Risk.** Riparian-wetland areas are considered functional-at risk when they function but are susceptible to degradation due to soil, water, or vegetation characteristics.
- **Nonfunctional.** Riparian-wetland areas are deemed nonfunctional when they do not provide adequate vegetation, landform, or large woody debris to dissipate stream energy and thus do not reduce erosion or improve water quality. The absence of certain physical characteristics, such as a floodplain, is an indicator of a nonfunctional riparian-wetland area.
- **Unknown.** Riparian-wetland areas in this category are those for which functioning condition has not been determined because the BLM lacks sufficient information about them.

Future Management of Riparian-Wetland Areas



BLM Biologist Neal Hedges, Spokane District (Wenatchee Resource Area), sampling macroinvertebrates in Douglas Creek, Washington (photo by Hugh Barrett).

As the BLM works to achieve proper functioning condition on riparian-wetland areas, the agency is developing a Bureauwide standard for monitoring and reporting improvements in conditions so it can better assess and document progress.

In 1989, each State prepared individual strategies that identified projected funding needs for riparian management activities for fiscal years 1991 to 1995. Other needs were identified indepen-

dently in *Waterfowl Habitat Management on Public Lands*, a document prepared as part of the Fish and Wildlife 2000 national strategy plan series.

The BLM is focusing its efforts on inventory, planning, proper management, monitoring, project development, and project maintenance. These activities are being updated as more information becomes available.

Summary of the BLM's 1997 Accomplishments



Camp Creek in Oregon's Prineville District illustrates the channel narrowing and deepening that result from bank building and sediment retention (photo by Hugh Barrett).

The BLM continues to make progress in meeting the goals of the Riparian-Wetland Initiative for the 1990s. The following summary of accomplishments, based on data collected through fiscal year 1997, shows how the agency is improving riparian-wetland conditions across the West. In FY 1997, the BLM:

- Completed 176 riparian-related activity plans, which included the preparation or revision of at least two resource management plans that dealt with riparian issues.
- Applied intensive management (e.g., rest-rotation grazing strategies, special stipulations, on-the-ground projects, etc.) to 868 miles of riparian and 11,842 acres of wetlands in the contiguous Western States.
- Accomplished riparian inventory assessments on 4,455 miles of streams and 64,800 acres of wetlands in the contiguous Western States and on 335 miles of streams and 3 million acres of wetlands in Alaska. These assessments included determinations of functioning condition status.
- Developed 684 new riparian-wetland improvement projects.
- Maintained 831 existing riparian-wetland projects.
- Monitored 291 resource management plans having riparian-wetland objectives.
- Acquired 23 different tracts of land in seven States with riparian-wetland areas, primarily through land exchanges.
- Filed for and acquired 23,640 water rights.
- Conducted 408 instream flow assessments to determine the water quantity needed to support healthy riparian-wetland areas.
- Managed many areas with riparian values through partnerships with Federal, State, and private cooperators.
- Completed numerous training, public outreach, and research efforts to promote awareness of the importance of healthy riparian-wetland areas.

In carrying out the Riparian-Wetland Initiative in FY 1997, the BLM coordinated its efforts with various agencies and parties, including the

National Marine Fisheries Service, the U.S. Forest Service, the Fish and Wildlife Service, the Natural Resources Conservation Service, State and local agencies, and State legislatures. The Bureau also worked closely with professional groups--such as the American Fisheries Society and the Society for Range Management--and with national environmental organizations.

Through FY 1997, the BLM has assessed the functioning condition of riparian-wetland areas on a grand total of 161,202 miles of streams and 12,865,866 acres of wetlands. This includes 28,866 miles of streams and 198,217 acres of wetlands in the contiguous lower 48 States. (Note: Two of these cumulative totals are lower than last year's because of efforts in fiscal year 1997 to refine data gathering.)

State-by-State Summary of the BLM's 1997 Accomplishments

Standing-Water Wetland Inventory
(by acres)

Alaska	3,000,000
Arizona	.0
California	.335
Colorado	.99
Eastern States	.0
Idaho	.260
Montana	.995
Nevada	.579
New Mexico	.479
Oregon/Washington	.59,232
Utah	.1,110
Wyoming	.1,679
Total:	.3,064,768

Flowing-Water Riparian Inventory
(by miles)

Alaska	.335
Arizona	.92
California	.205
Colorado	.1,002
Eastern States	.0
Idaho	.532
Montana	.595
Nevada	.359
New Mexico	.74
Oregon/Washington	.703
Utah	.527
Wyoming	.366
Total:	.4,790

Riparian-Related Activity Plans

Alaska	.1
Arizona	.6
California	.5
Colorado	.14
Eastern States	.0
Idaho	.34
Montana	.6
Nevada	.13
New Mexico	.1
Oregon/Washington	.23
Utah	.8
Wyoming	.65
Total:	.176

Resource Plans Monitored

Alaska	.26
Arizona	.6
California	.4
Colorado	.24
Eastern States	.0
Idaho	.6
Montana	.72
Nevada	.128
New Mexico	.1
Oregon/Washington	.10
Utah	.6
Wyoming	.8
Total:	.291

Riparian-Wetland Studies

Alaska	.9
Arizona	.50
California	.52
Colorado	.103
Eastern States	.0
Idaho	.479
Montana	.440
Nevada	.26
New Mexico	.22
Oregon/Washington	.416
Utah	.89
Wyoming	.436
Total:	.2,122

New Riparian-Wetland Projects

Alaska	.2
Arizona	.9
California	.47
Colorado	.106
Eastern States	.0
Idaho	.75
Montana	.160
Nevada	.49
New Mexico	.32
Oregon/Washington	.40
Utah	.32
Wyoming	.132
Total:	.684

Maintained Riparian-Wetland Projects

Alaska	.0
Arizona	.58
California	.43
Colorado	.21
Eastern States	.0
Idaho	.241
Montana	.78
Nevada	.133
New Mexico	.22
Oregon/Washington	.46
Utah	.66
Wyoming	.123
Total:	.831

Instream Flow Assessments/Studies

Alaska	.6
Arizona	.0
California	.16
Colorado	.0
Eastern States	.0
Idaho	.0
Montana	.1
Nevada	.0
New Mexico	.0
Oregon/Washington	.380
Utah	.5
Wyoming	.0
Total:	.408

New Intensive Wetland (standing water)
Management Actions Applied (in acres)

Alaska	.0
Arizona	.1
California	.6,500
Colorado	.0
Eastern States	.0
Idaho	.479
Montana	.231
Nevada	.1,433
New Mexico	.115
Oregon/Washington	.1,770
Utah	.654
Wyoming	.659
Total:	11,842

New Intensive Riparian (flowing water)
Management Actions Applied (in miles)

Alaska	.0
Arizona	.10
California	.40
Colorado	.0
Eastern States	.0
Idaho	.296
Montana	.124
Nevada	.81
New Mexico	.13
Oregon/Washington	.192
Utah	.61
Wyoming	.51
Total:	.868

Riparian-Wetland Acquisitions/
Easements (no. of tracts)

Alaska	.0
Arizona	.0
California	.3
Colorado	.5
Eastern States	.0
Idaho	.5
Montana	.2
Nevada	.4
New Mexico	.0
Oregon/Washington	.2
Utah	.0
Wyoming	.2
Total:	.23

Goals and Strategies



Changes in management are evident on Current Creek in BLM's Green River Resource Area near Rock Springs, Wyoming (photo by John Henderson).

Listed below are the goals of the BLM's Riparian-Wetland Initiative for the 1990s, followed by the agency's progress toward reaching those goals in fiscal year 1997.

Goal 1

~

The BLM is working to achieve restoration and maintenance of riparian-wetland areas.

Overall, the agency is working to get 75% of the riparian zones into an advanced or desired ecological state.

~

The BLM is implementing strategies in different stages. For example, in those areas where plans are completed, the agency is developing projects. In other areas, the Bureau is conducting inventories to gather baseline data, which facilitates planning and project design. Where plans have been implemented, the BLM is conducting monitoring to determine the extent to which these implementation actions are meeting riparian-wetland management objectives. To move toward its restoration and maintenance goals, the BLM employs a variety of strategies and tools.

Inventory and Classification

The BLM is compiling and evaluating baseline information to determine ecological status, poten-

tial, and condition. Please see Appendix I for numerous examples.

Land Use and Activity Plan Preparation or Revision

The BLM has been developing and revising management plans that involve riparian-wetland areas or values.

- In 1997, the agency prepared or revised 176 activity plans that address riparian-wetland issues (e.g., Allotment Management Plans, Watershed Management Plans, Habitat Management Plans, Coordinated Resource Management Plans, and Recreation Management Plans). These activity plans contributed to the Bureau's application of intensive management to 868 miles of streams and 11,842 acres of wetlands in the lower 48 States. Activity plans included land use-plan objectives and provided management prescriptions related to riparian-wetland area management for activities such as livestock grazing, surface protection, fish and wildlife habitat management, and recreation use.
- The BLM is completing new, or revising existing, Resource Management Plans to resolve conflicts over riparian-wetland resources. As it does this, the agency determines the best mix of

multiple uses that are consistent with existing regulations and management practices, such as the Healthy Rangelands strategy that took effect August 21, 1995, and Endangered Species Recovery Plans. Please see Appendix II for details on new or revised activity plans.

Project Development and Maintenance

The BLM initiates and maintains projects to create, improve, or maintain riparian-wetland ecological conditions. In 1997, the agency carried out 684 new on-site projects to protect, restore, or improve riparian-wetland areas. These projects included water developments; fence construction; tree, shrub, and grass plantings; prescribed burnings; and noxious weed control.

In 1997, the BLM—working with volunteers, land users, and various interest groups—maintained 831 existing riparian-wetland projects.

Monitoring

The BLM monitors riparian-wetland areas to determine whether management actions are meeting specific objectives. In 1997, the agency monitored management actions on 290 activity plans and conducted 2,122 riparian-wetland studies.

When riparian objectives are not being met, the BLM revises management prescriptions and then resumes monitoring to measure its progress toward management goals.

The Riparian-Wetland Initiative for the 1990s includes a directive to monitor water quality and to implement Best Management Practices to meet State and national water quality objectives. Please see Appendix III for details on monitoring progress.

Goal 2

The BLM protects riparian-wetland areas and associated uplands through proper land management and by avoiding or mitigating negative impacts. The objective is to protect, acquire, and expand key areas to ensure their efficient management and to bring about their maximum public benefit.

To protect or expand riparian-wetland areas, the Bureau is implementing several strategies:

Protection and Mitigation

The BLM prevents or mitigates the negative effects of surface-disturbing activities to the maximum extent practical by completing Environmental Assessments (EAs) for proposed activities. The EA identifies impacts, alternatives, and mitigating measures for the proposed activity. Protective stipulations are incorporated in land-use authorizations and contracts to make sure that site-specific riparian-wetland management objectives are met. To ensure compliance with Section 404 of the Clean Water Act, the BLM coordinates permits with the Army Corps of Engineers, the Environmental Protection Agency, and the Fish and Wildlife Service, among other agencies.

The BLM ensured compliance with mitigation measures in 1997 for hundreds of surface-disturbing activities, including road building, pipeline construction, mineral exploration and development, and recreation activities. Monitoring these activities to determine their success in mitigating impacts required several adjustments in land-use activities.

Special Designations

The BLM identifies critical or unique riparian-wetland areas that would benefit from special designation through land-use planning or other processes.

Types of special designations include Quality Management Areas (QMAs), National Riparian Conservation Areas, Areas of Critical Environmental Concern (ACECs), Research Natural Areas (RNAs), and Wilderness Study Areas (WSAs). The Bureau can also withdraw areas from certain types of entries or activities to protect riparian-wetland resources.

Please see Appendix IV for a list of riparian-wetland areas that were designated for special management emphasis in 1997.

Water Rights Assessments

Following the procedural requirements of various State laws, the BLM obtains, on a case-by-case basis, the rights or cooperative agreements for water needed to sustain riparian-wetland areas and their uses. In 1997, the agency applied for

23,640 site-specific claims to secure water amounts, including instream flows, that are needed to support healthy riparian-wetland areas and other uses. Please see Appendix V for examples of instream flow assessments and studies.

Acquisitions and Easements

The BLM acquires riparian-wetland areas primarily through exchanges, as well as through donations, purchases, and easements. Key areas sought are those that are adjacent to Waterfowl Habitat Management Areas, those that provide habitat for threatened and endangered species, those that will enhance recreational fishing, and those that will enhance the management of larger blocks of surrounding public lands. For details on riparian-wetland areas that the BLM acquired in 1997, please see Appendix VI.

Watershed Approach

The BLM takes a watershed approach to riparian-wetland management that, whenever possible, focuses on entire watersheds and involves all affected landowners. Under this approach, the agency manages riparian-wetland areas in a manner that accommodates multiple uses. In certain instances, the BLM has to restrict some uses to achieve site-specific objectives. Please see Appendix VII for some examples of the Bureau's watershed approach.

Goal 3

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The BLM carries out a multifaceted riparian-wetland information and outreach program that includes training and research. The objective is to raise awareness and understanding of the importance of healthy riparian-wetland areas.

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The BLM continues to expand training to ensure that agency employees have the technical and management skills needed for planning and program implementation. The Bureau also makes this training available to other government agencies and to the public. In 1997, the BLM conducted, sponsored, or co-sponsored numerous

training sessions, workshops, and conferences. Please see Appendix VIII for details.

Public Outreach

As the BLM, the academic community, and other interested parties disseminate information about riparian-wetland areas, the public is becoming more aware of the value of these lands.

In 1997, the BLM continued its efforts to foster a greater understanding of and appreciation for riparian-wetland areas among land managers, business and community leaders, and the general public. The agency expanded its public outreach program through media contact and coverage, brochures, exhibits, videos, and teaching materials. The BLM presented this information at workshops, conferences, and schools, as well as during tours, as noted in Appendix IX.

Showcase Areas and Awards

The BLM continues to showcase riparian-wetland areas where proper management is creating multiple benefits. The agency also honors individuals or groups that have made outstanding contributions in helping the BLM reach its riparian-wetland management objectives.

Riparian Showcases

Interagency and interdisciplinary coordination continues in the Upper Muddy Creek Watershed in Wyoming. This Coordinated Resource Management (CRM) group is operating effectively to manage the Muddy Creek Riparian Showcase Area.

Riparian Awards Given to BLM

The Western Division of the American Fisheries Society sponsors an annual award for excellence in on-site riparian management. The award recognizes the best BLM and Forest Service work in restoring riparian areas. The Tucson Field Office received an award in 1997 for their outstanding work on Cienega Creek and the San Pedro Riparian NCA (National Conservation Area).

Goal 4

Riparian-wetland ecosystems, which neither begin nor end at land ownership boundaries, require effective and cooperative management by all affected parties. The BLM is working to form new and maintain existing partnerships to implement the Riparian-Wetland Initiative for the 1990's. The goal is to supplement and accelerate the agency's work by using non-Federal funds and labor to complete high-priority projects.

Funding and Volunteer Opportunities

The BLM undertakes high-priority restoration projects through joint-funding ventures such as the Challenge Cost Share Funding Program. In addition, through its Volunteer Program, the agency seeks and receives assistance from individuals, public land users, and other groups interested in riparian-wetland management. Volunteers not only help the BLM complete projects and perform required maintenance, but also educate the public about the value of riparian-wetland areas.

Please see Appendix X for examples of land users and groups in four States that volunteered time and labor to help the BLM on riparian-wetland projects.

Partnerships

The BLM continued working in 1997 with a variety of private groups and governmental agencies to achieve riparian-wetland management objectives. Please see Appendix XI for numerous examples of partnerships, interagency cooperation, and interdisciplinary coordination.

Standardization and Integration

To carry out its land management mission more effectively, the BLM coordinates its riparian-wetland activities with other BLM initiatives, including those dealing with fish and wildlife and recreation.

Technical Guidelines

The BLM's National Applied Resource Sciences Center in Denver continues to take the

lead role in the agency's development and implementation of standardized riparian-wetland guidelines. These guidelines relate to inventory, classification, management, monitoring, evaluation, and data handling. The following riparian management papers and technical references were published between 1986 and 1997.

- Concepts in Stream Riparian Rehabilitation, 1986
- A Selected, Annotated Bibliography of Riparian Area Management, 1987
- The Use of Aerial Photography to Inventory and Monitor Riparian Areas, 1987
- Inventory and Monitoring of Riparian Areas, 1989
- Grazing Management in Riparian Areas, 1989
- Riparian-Wetland Classification Review, 1991
- Procedures for Ecological Site Inventory, 1992
- Management Techniques in Riparian Areas, 1992
- Greenline Riparian-Wetland Monitoring, 1993
- Process for Assessing Proper Functioning Condition, 1993
- Process for Assessing Proper Functioning Condition for Lentic Riparian- Wetland Areas, 1994
- The Use of Aerial Photographs to Manage Riparian-Wetland Areas, 1994
- Classification and Management of Montana's Riparian and Wetland Sites, 1995
- Using Aerial Photographs to Assess Proper Functioning Condition of Riparian-Wetland Areas, 1996
- Observing Physical and Biological Change Through Historical Photographs, 1996
- Ecology and Management of the South Fork Snake River Cottonwood Forest, 1996
- Grazing Management for Riparian-Wetland Areas, 1997

Conclusion



*Upper Nome Creek in Alaska's White Mountains National Recreation Area
(photo provided by Dwight Hovland).*

The BLM's Healthy Rangelands strategy, which took effect on August 21, 1995, recognizes the importance of restoring or maintaining the health of riparian-wetland areas. This strategy is aimed at restoring to health about 100,000 acres of riparian habitat and bringing 20 million acres of upland habitat into proper functioning condition. Thus, the Healthy Rangelands strategy advances the principal goal of the Riparian-Wetland Initiative for the 1990s, which is to

restore riparian-wetland areas on public lands.

Achieving this objective and responding to the other challenges described in this report will require the continued support of Congress and ongoing cooperation between the BLM and its numerous public and private partners. Given this support and cooperation, the Bureau of Land Management can achieve healthy conditions on riparian-wetland areas throughout the West.

Appendices



*Estuarine wetland near Nome, Alaska
(photo by Jim Fogg).*

Appendix I: Baseline Information Collection Accomplished in Fiscal Year 1997

- In Alaska, over 3,000,000 acres of wetlands and 335 miles of riparian habitat were assessed to determine proper functioning condition.
- In Arizona, the BLM conducted and completed assessments on 92 miles of riparian (flowing water) habitat.
- In California, the BLM District Offices completed wetland PFC assessments on 335 acres and riparian PFC assessments on 205 miles. The remaining assessments will be completed on isolated tracts.
- In Colorado, the BLM completed inventories on 1,002 riparian stream miles and 99 acres of wetlands. Data were refined in some instances with new knowledge.
- In Idaho, the BLM completed 532 miles of riparian functioning condition assessments using contracts and BLM personnel. A total of 260 acres of wetland habitat was assessed for the Snake River water rights adjudication.
- In Montana, District Offices completed 595 miles of riparian functioning condition assessment and wetland PFC assessments on 995 acres. Montana has completed 99 percent of the flowing water assessments for PFC and will continue assessments of functioning condition as needed on both riparian and wetland water areas.
- In Nevada, statewide assessments were completed on 40 streams covering 359 miles. In addition, Level III intensive stream surveys were conducted on 56 miles of streams. Recording thermographs were installed on 16 streams covering 78 stream miles. Finally, 579 acres of wetlands were inventoried.
- In New Mexico, the Bureau assessed the functioning condition of 479 wetland acres and 74 riparian miles.
- In Oregon and Washington, the Bureau completed over 703 miles of stream inventory and 59,232 acres of wetlands inventory to deter-

mine functioning condition. In addition 296 miles of low-level aerial imagery were flown for conducting riparian assessments. Oregon also worked with the State of Oregon Departments of Environmental Quality and Agricultural in developing rule-making for 401 Certification for grazing on public lands. Finally, Oregon established and implemented policy for the expenditure of public funds for watershed related projects on private lands as prescribed by the Wyden Amendment.

- In Utah, the BLM conducted proper functioning condition assessments on riparian areas along 527 miles of streams, as well as 1,110 acres of wetlands. Greenline transacts were also established along streams in two districts.
- In Wyoming, the BLM completed proper functioning condition assessments on 366 riparian miles for high-priority grazing allotments. This evaluation included 1,679 acres of wetlands habitat assessment.

Appendix II: Land Use and Activity Plan Preparation or Revision

- In Alaska the Northern BLM District completed the Hogatza River Area of Critical Environmental Concern (ACEC) activity plan.
- In Arizona, the BLM's District Offices continue to complete interdisciplinary plans on the Gila Box Riparian National Conservation Area, as well as the Trigo/Imperial and Empire/Cienega areas. The Parashant, Sycamore, EZ, Muleshoe, and Horseshoe interdisciplinary plans are now being implemented.
- In California the BLM completed five activity plans and four monitoring plans.
- In Colorado, the BLM completed or revised activity plans for 14 areas as well as two Resource Management Plans. Grazing plans were developed to enhance the riparian habitat

and livestock distribution within several allotments. Substantial riparian management issues continue to be addressed in the developing San Miguel Watershed Plan. The Little Snake River Area Fire Management Plan has been updated to include protection standards for riparian areas. The Gunnison Area has participated in a recovery plan for sage grouse, an important component of which is riparian area restoration. The San Luis Area completed a major riparian resources management plan for the Rio Grande and updated the Rock Creek management plan. And the Glenwood Springs Area completed a travel management plan for the Castle Peak area that includes travel restrictions for riparian creeks.

- In Idaho, the BLM's District Offices completed 34 activity plans. Bruneau area completed the Castle Creek AIE and draft management plan, which includes 60 miles of stream and 10 acres of wetlands. The Owyhee area completed the Reynolds Creek CRM. Lemhi Resource Area began implementation of the Lemhi County Riparian Habitat Conservation Agreement.
- In Montana, the BLM completed or revised six activity plans, emphasizing changes in grazing use that benefit riparian areas.
- In Nevada, the Bureau completed a total of 13 activity plans or multiple-use decisions that contain riparian objectives and specific actions to improve riparian habitat through intensive management changes and/or fencing. In addition, wild horse and burro gathers were conducted to improve rangeland condition, including riparian habitat.
- In New Mexico, a cooperative resource management plan and EA was developed for a four-mile stretch of the Delaware River acquisition. The partnership included the New Mexico Land Office, Soil and Water Conservation District, National Resource Conservation Service, Eddy County, New Mexico Department of Fish and Game, Cooperative Extension Service, New Mexico Wildlife

- Federation, Chihuahuan Desert Conservation Alliance, Sierra Club, Forest Guardians, and the grazing permittee.
- The BLM's Oregon/Washington Districts prepared 23 activity plans to restore riparian function.
 - In Utah, the Bureau implemented new or modified existing activity plans on six new Allotment Management Plans (AMPs). Each activity plan is designed to improve the functioning and ecological conditions of the associated riparian areas. The San Rafael River HMP and a multiple-use management plan on the South Narrows area of Otter Creek were also developed.
 - The Wyoming BLM's Bighorn Basin Resource Area developed eight Allotment AMPs that have riparian-wetland concerns, objectives, and management prescriptions. The Wyoming District Offices continue to develop additional plans and are implementing and maintaining plans (primarily AMPs) that have riparian-wetland concerns, objectives, and management prescriptions. All told, 65 plans have been put in place.

Appendix III: Monitoring Progress

- In Alaska the BLM monitored placer mining operations to protect and restore riparian areas. Alaska initiated the Aquatic Resource Information System (ARIMS) and will field-deploy and field-test the system next year.
- In Arizona, the BLM monitored 50 study areas to determine instream flow needs, collected ground-water baseline information, and gathered information on endangered species. The Bureau monitored six plans with riparian objectives, including Allotment, Habitat, Watershed, Recreation, and Ecosystem Management Plans.
- In California, the BLM monitored four plans with specific riparian objectives and completed 52 riparian-related studies.
- In Colorado, the BLM monitored 24 plans with specific riparian objectives and completed 103 riparian-related studies. Monitoring activities included photo plots, water quality analysis, macroinvertebrate analysis, cross-sections, vegetation trend studies, waterfowl nest searches, recreation impacts, soil organisms/land health study, beaver distribution, neotropical bird study, and livestock utilization. Much of the monitoring was to determine if riparian objectives identified in various activity plans were being met.
- In Idaho, the BLM completed monitoring plans and developed annual resource area monitoring plans. All resource areas in Idaho have monitored numerous riparian-wetland sites. Monitoring includes greenline, streambank stability, vegetation, temperature, sediment, water column, photopoints, utilization, water flow, and use supervision. All Districts continue to establish new monitoring sites to help determine management effectiveness and trends. Offices are preparing Analysis Interpretation Evaluations (AIEs) for grazing allotments containing significant riparian-wetland areas.
- In Montana, the BLM monitored 72 activity plans with riparian objectives and completed 440 monitoring studies. Riparian management efforts are being focused at the watershed level. Significant long-term progress is anticipated, given the cooperative efforts of the various landowners.
- In Nevada, the BLM monitored 128 activity plans or multiple-use decisions to determine whether management actions on riparian-wetland areas were meeting specific objectives. In addition, 26 monitoring studies were conducted on riparian-wetland areas not covered by an activity plan.
- In New Mexico, monitoring studies were continued on riparian habitat along the Lower Gila Box, Placitas Arroyo, and Pump Canyon. Additional studies for the Southwestern Willow Flycatcher and breeding bird surveys were also accomplished.

- In Utah, monitoring studies have been accomplished in all Districts and Resource Areas. These studies include vegetative sampling (greenline), water quality samples/analysis, photopoint retakes, macroinvertebrate samples, streamgauge readings, the establishment/analysis of vegetation condition in exclosures, and establishment/reading of observation wells to determine ground-water levels.
- In Wyoming, 436 monitoring studies (photopoints; water wells; and water quality, macroinvertebrate, and vegetative studies) associated with several activity plans were completed. Within the Muddy Creek CRM, work began on the incorporation of monitoring locations into a GIS data base, utilizing the Global Positioning System (GPS) to locate study sites on-the-ground.

Appendix IV: Special Designations

State Project Area	District	Special Designation
Nevada Gold Butte	Las Vegas	ACEC*
Alaska Hogatza River	Northern	ACEC*

* Area of Critical Environmental Concern.

Appendix V: Instream Flow Assessments and Studies

- Alaska District Offices continue to conduct instream flow studies and started Ecological Site Inventories (ESIs) in the Delta Wild and Scenic River Corridor. In addition, 11 streams in the George River drainage have been surveyed for geomorphic characteristics.
- In Utah, instream flow assessments are progressing on five stream gauge stations in the Vernal District that are being cooperatively being maintained by the USGS and BLM.

Appendix VI: Key Riparian-Wetland Acquisitions

Acquisition/Easement Description

- California completed three land acquisitions that resulted in an additional 15 miles of wetland habitat on Mill and Clear Creeks and on the Upper Sacramento River.
- Colorado acquired key riparian-wetland areas in five parcels through exchange or purchase.
- In Idaho, the Emerald Empire area completed the Loff's Bay land exchange (265 acres) on Lake Coeur d'Alene and the Sliver exchange (280 acres) in the Coeur d'Alene River drainage. The Lemhi area completed the Birch Creek exchange (1,160 acres). The Medicine Lodge Resource Area completed the Kinghorn purchase (138 acres) and Flat Ranch conservation easement (200 acres).
- In Montana, 50 miles of riparian habitat associated with the Blackfoot River were acquired.
- Nevada's Elko District completed the Section 31 and Indian Creek Land Exchange, which includes 3.3 miles of riparian habitat and 2,800 acres of wetland habitat. Carson City District completed the Carson River exchange, which resulted in the addition of .75 miles of riparian habitat and 6 acres of wetland habitat. Las Vegas District completed Phase 1 and 2 of the Del Webb land exchange, which resulted in the addition of approximately 6 miles of riparian habitat and several hundred acres of wetland habitat to be managed by Federal agencies other than BLM (USFWS and USFS).
- In Wyoming's Cody Resource Area, the Rainbow Canyon easement is nearly complete. The Hogan/Luce easement has been completed and now provides improved public access to these popular reservoirs. The Bighorn Basin Resource Area completed the Brokenback and Peterson exchanges; both improve public access to riparian creeks in the resource area.

Appendix VII: Watershed Management Examples

- In Alaska, three major landcover efforts were initiated this year in partnership with Ducks Unlimited, Inc.; the U.S. Fish and Wildlife Service; and the National Park Service. The central goal of these projects is to create accurate 30-meter resolution digital satellite landcover, hydrography, and digital elevation models, as well as wetland basin statistics. Two projects, the Gulkana River Watershed and the Steese-White Mountains, will be completed in May of 1998.

BLM-Alaska served as a core workgroup member to develop an approach to watershed management based on shared stewardship responsibilities and collaborative management of watersheds. This process was sponsored by the EPA and Alaska Department of Environmental Conservation. Sixty-three State, local, Federal, Native, and private-sector groups have been involved to varying degrees in the development of the management framework.

- In Arizona, the BLM continues to support the implementation and completion of several interdisciplinary plans to properly manage the Gila Box Riparian National Conservation Area and the Parashant, Sycamore, EZ, Muleshoe, Horseshoe, Trigo/Imperial, and Empire/Cienega riparian areas.
- In Colorado, District Offices are taking an ecosystem approach to managing riparian wetland areas by concentrating on entire watersheds, including all landowners and land managers. Land management issues are being addressed by partnership groups to coordinate the resource management process. Participants include local BLM offices, the Colorado Division of Wildlife, landowners, permittees, the NRCS, the Owl Mountain Partnership, the San Miguel Watershed Coalition, Animas Stake Holders, the Forest Service, and county governments. Management results are beginning to appear both on and off BLM lands.
- In Idaho, the interagency Snake River Activity/Operation Plan was implemented. Big

Butte Resource Area and the Salmon/Challis National Forest completed a draft Sawmill Creek Watershed Analysis as part of the Bull Trout Watershed Management Strategy/Plan. The Challis Resource Area, Forest Service, Idaho Department of Fish and Game, National Marine Fisheries Service, Shoshone-Bannock Tribes, Idaho Department of Land, and others are developing a prototype ecosystem analysis at the watershed scale using the Federal 6-Step process on Herd Creek. The Cottonwood Resource Area is actively participating in five cooperative watershed projects with the Forest Service, Boise Cascade Corporation, The Nature Conservancy, NRCS, and Idaho Fish and Game Department. The Bruneau Resource Area is using the Analysis, Interpretation, and Evaluation (AIE) procedure on the Battle Creek and Northwest Allotments to evaluate the Little Jacks and Big Jacks Creek Watersheds. And the Owyhee area is evaluating the Hardtrigger Watershed as a basis for an allotment AIE.

- In Montana, emphasis is on inventorying and improving riparian-wetland habitat at a watershed level. In the Garnet area, landscape analyses on the 33,000-acre Elk Creek watershed was completed in cooperation with the Montana Department of Natural Resources; the Montana Department of Fish, Wildlife, and Parks; the EPA; and the University of Montana. Elk Creek is a major tributary of the Big Blackfoot River, which has ongoing placer mining, timber harvest, cattle grazing, and road construction. A plan will be developed to restore Bull Trout and Westslope Cutthroat trout habitat, riparian health, and forest structure. The analyses included 17 miles of fish habitat assessment, 17 miles of stream morphology and 55 miles of riparian assessments. Roughly one-third of the watershed's land area and 142 miles of stream channel are under BLM administration. In the Dillon Resource Area, more than 20 steering and technical committee meetings were held to further management, planning, and implementation on various watersheds. The Strawberry Ridge AMP was implemented in collaboration with the Forest Service; this AMP includes riparian

objectives, with improvement of 15 miles of stream habitat being the goal.

- In Utah, an aggressive approach to noxious weed management continues with control of purple loosestrife and Canada thistle, which threaten riparian-wetland habitats. Richfield District is continuing its partnership with Millard County, the Utah State University (USU) Extension Service, the Fish and Wildlife Service, and private landowners in efforts to eradicate purple loosestrife on Warm Creek and the adjacent wetlands of Gandy Salt Marsh. Canada thistle populations continue to be monitored by Salt Lake District and USU.
- In Wyoming, the Great Divide Resource Area Upper Muddy Creek Watershed project is a cooperative effort involving the Wyoming Department of Agriculture, Wyoming Game and Fish Department, Little Snake River Conservation District, Wildlife Management Institute, Seeking Common Ground, permittees, and the BLM. Management goals include improving fish and wildlife habitat, decreasing point sources of erosion, and maintaining livestock production. The Shirley Mountain CRM is a similar effort that is in its early stages. The Cody Resource Area is also developing/implementing several CRM projects (Horse Creek Study Area, North Fork Shoshone River, and Martin Mayland) all of which are being developed under a holistic watershed management approach. Each effort involves the cooperation and coordination of Federal and State agencies as well as local landowners.

Appendix VIII: Examples of Training Sessions and Workshops

- The BLM's National Applied Resource Sciences Center (NARSC) staff in Denver conducted two training sessions for BLM, NRCS, and Forest Service staff in two states to assist them in using technical reference TR 1737-12, "Using Aerial Photographs to Assess Proper Functioning Condition of Riparian-Wetland Areas." They also provided additional training and field assistance on TR 1737-9, "Process for

Assessing Proper Functioning Condition" and TR 1737-11, "Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas." The staff translated TR 1737-9 and 11 into Spanish and reprinted TR 1737-3,5,6,7,8,10,12, and 13 to ensure their availability.

- The BLM's National Applied Resource Sciences Center (NARSC) staff in Denver represented the BLM on the Federal Geographic Data Committee (FGDC) Wetland subcommittee working group. Activities during 1997 included developing a home page for the wetlands committee, testing Standard Data Transfer Standards on wetland data, and updating FGDC metadata on the National Wetlands Inventory.
- In Colorado, several District personnel were trained in proper functioning condition (PFC) and wetlands delineation. San Luis hosted interagency training in PFC. BLM staff also represented the Bureau at Wildlife Society and Colorado Riparian Association meetings. Offices taught riparian courses for teachers and students, hosted tours, formed steering committees, sponsored PFC training, and provided input into curriculum development.
- The Idaho Interagency Riparian Proper Functioning Condition Training Team--consisting of 11 members from the BLM, Forest Service, Natural Resources Conservation Service, Idaho Department of Lands, Idaho Department of Fish and Game, and Soil Conservation Commission--completed 10 training sessions during fiscal 1997 in Idaho. There were over 400 participants representing several Federal, State, and local agencies, congressional delegations, Tribes, ranchers, permittees, irrigation districts, conservation groups, the forest and mining industry, universities, and students.
- Montana BLM provided instructors for Montana's interagency/private cooperative riparian training program for private landowners, the NRCS, the Forest Service, the Bureau of Indian Affairs, county agents, and others. This

program has also been presented by the University of Montana to three provinces in Canada, where it is being used extensively and has been endorsed by the Alberta Cattlemen's Association.

- In Nevada, riparian and wetland functionality training sessions were held in the Battle Mountain, Las Vegas, and Elko Districts.
- Seven 2-day sessions were conducted by the Utah Training Cadre, which presented Proper Functioning Condition Training. Over 150 individuals representing the ranching community; environmental interests; State, local, and Federal government agencies; and agricultural interest groups participated in this training.
- In Wyoming, four PFC training sessions were held. Wyoming Game and Fish Department participated in conducting PFC assessments. Permittees and other participants (Congressional representatives, environmental groups, and livestock operators) were given on-site explanations of PFC methodology and checklist elements.

Appendix IX: Examples of Public Outreach Efforts

- The Anchorage District hosted nearly 3,000 sixth-grade students along Campbell Creek at the 23rd annual Outdoor Week. The BLM and Anchorage schools, along with other agencies' specialists, organized resource study stations for the students. The Northern District hosted nearly another 1,000 sixth-grade students for Outdoor Days in Fairbanks.
- Colorado hosted several PFC training courses for public land users and Resource Advisory Council (RAC) members. The Lirtle Snake area hosted a tour of the Axial Basin CRM area to review riparian objectives and land use impacts. The Kremmling area hosted nine tours of the Hebron Waterfowl area and other riparian areas in Borth Park to focus on management issues. Attendees included CSU students, Sierra Club

members, Congressional staff, Lincoln County representatives, and the Nevada Public Lands Committee. The Uncompahgre area hosted a tour for 30 schoolchildren that focused on land and water management, as well as presenting a tour of the San Miguel River for key constituents and coalition members. All resource areas offered educational tours for schools and students to highlight the function and importance of watersheds and riparian areas.

- Resource areas in Idaho provided riparian presentations to local schools and interest groups. Field tours were conducted for various groups (the Experimental Stewardship Program, Idaho Watershed Project, National Wildlife Federation, Portneuf River Watershed Council, the Idaho Conservation Data Center, permittees, and the local media). The Lemhi Resource Area staff made a presentation to agency executives from the BLM, USFS, USFWS, Governor's office, and other State agencies on the Lemhi Model Watershed. In addition, the Lemhi staff made presentations to school and civic groups.
- In Montana, riparian specialists have been active in the environmental education field. Several school programs for various age groups have been presented, e.g., Kids on Kampus; Wiggly, Wet, & Wild; etc.
- In Nevada, the Elko office gave presentations to and conducted field trips for elementary school students and the Rotary Club. Winnemucca held a fishing day for kids at Andorno Ranch pond and represented the Bureau at career fairs and the Ecology Days Educational Program. Carson City conducted field tours with the Sierra Club and the Wildlife Coalition, as well as conducting two public on-site field presentations on the importance of riparian areas.
- In Oregon/Washington, resource specialists contributed expertise and/or funding to various educational groups, including the regional Salmon Festivals, Oregon Trout-Salmon Watch Program, and the Oregon and Washington Cattlemen's

Associations. Earthwatch International helped construct a four-mile riparian protection fence along Nine Mile Creek in Carbon County.

- In Wyoming, public outreach is conducted in several ways. Active partnerships remain an integral part of riparian management. Partners

in the Rawlins District include the Wyoming Game and Fish Department, Little Snake River Conservation District, NRCS, and the Wyoming Flycasters Chapter of Trout Unlimited. These and other partners help us interact with interested publics regarding riparian education and values.

Appendix X: Examples of Funding and Volunteer Efforts

State Activity	Office Source	Project Area(s)/	Funding/Volunteer
Colorado	Little Snake	Fly Creek Exclosure	Permittee
Colorado	Kremmling	Fischer Dr. Fence	NPHPP/FFA Permittee
Colorado	Kremmling	Hebron Sloughs	Permittee
Colorado	Kremmling	Meyering Fence	DOW YNR
Colorado	Kremmling	Knorr Project	Permittee
Colorado	Uncompaghre San Juan	Weed Inv./Control Dolores River	Sierra Club
Colorado	Uncompaghre	Bird Habitat Studies	Audubon
Colorado	Gunnison	SW Willow Flycatcher	Audubon
Colorado	Gunnison	Lake Fork of Gunnison	Trout Unlimited
Colorado	San Juan	Simon Draw Fence	Landowner (adjacent)
Colorado	Royal Gorge	Lower Grape Creek Road work/improvements	Local publics
Colorado	Royal Gorge	Arkansas River Riparian Improvement	Trout Unlimited
Colorado	Royal Gorge	Eightmile Creek	Quaddusters
Colorado	Grand Junction	Reconstruct 3 Riparian Gates	Mr. Brent Smith
Idaho	Medicine Lodge	Upper Snake River Adopt-A-Wetland	Montana Riparian Association Inventory/Evaluation, National Fish and Wildlife Foundation Grant
Idaho Canal	Medicine Lodge	S. Fk. Weed Mgmt.	Forest Service, NRCS, Outfitters, Companies, local citizens, The Nature Conservancy
Idaho	Medicine Lodge	Flat Ranch	National F&W Foundation, Bring Back the Natives, The Nature Conservancy
Idaho	Snake River	Goose Creek Riparian Improvements	Cassia County Commissioners, U.S. Forest Service

Appendix X: Examples of Funding and Volunteer Efforts *(continued)*

State Activity	Office Source	Project Area(s)/	Funding/Volunteer
Idaho	Snake River	Raft Creek	NRCS, landowners, NWR, FWS, permittees
Idaho	Challis	Chilly Slough	The Nature Conservancy, Ducks Unlimited, Rocky Mountain Elk Foundation, Idaho Fish & Game, North American Wetland Conservation Council
Idaho	Shoshone	Riverwood Wetland Project	Idaho F&G, Ducks Unlimited, Pheasants Forever, Nat'l. Fish & Wildlife Foundation
Utah	Moab	Negro Bill Canyon	American Hiking Society Trail
Utah	Moab	Mill Creek Trail	Plateau Restoration
Utah	Vernal	Book Cliffs	The Nature Conservation Initiative Conservancy, Rocky Mountain Elk Foundation, Utah Division of Wildlife Resources
Wyoming	Great Divide	Muddy Creek	Fish & Wildlife Foundation, Seeking Common Ground, Wildlife Institute, 391 Nonpoint Source Pollution

**Appendix XI:
Major Riparian-Wetland Partnerships,
Interagency Cooperation, and
Interdisciplinary Coordination**

- Alaska BLM riparian activities include a number of partnerships with other agencies and groups. Some examples are: (1) Jon Kostohry's work with the Alaska Department of Fish and Game and the Alaska Department of Transportation and Public Facilities to reclaim the Nome Creek area; (2) Bruce Seppi's sharing with USGS/BRD of his Partners in Flight data from habitat and bird surveys along the Bonasila River, George River, and Carter Spit; and (3) John Payne's studies with USGS and Ducks Unlimited, Inc., on land cover in the riparian areas and wetlands of Alaska.
- Arizona BLM continued to utilize partnerships in its riparian management efforts. The Sonoita Valley Planning Partnership, Friends of the San Pedro, and the Agua Fria Grassland Coalition

assisted BLM in planning, implementing, and monitoring riparian areas and associated resources.

- Colorado has over two dozen active riparian-related partnerships in various stages of implementation. On Colorado's Carr Creek, the BLM, landowners, Colorado Division of Wildlife, and Trout Unlimited are implementing a plan to protect creek portions for a native strain of the Colorado cutthroat. The BLM, the Colorado Natural Heritage Program, and 12 other organizations continue developing a statewide riparian community classification system. Several CRM groups have been established in the Little Snake and San Juan Resource Areas. The San Miguel Watershed Plan continues as a major effort among several partners.
- Idaho's Lemhi Resource Area is a major player in implementing the Lemhi County Conservation Agreement, which is developing coordinated efforts to minimize and mitigate

risks to riparian habitat; this is critical for most of the listed or potentially listed species in this area. The basic strategy is to enhance and maintain specific riparian habitat in Lemhi County, Idaho. The Challis Resource Area coordinated with the Forest Service, NRCS, Shoshone-Bannock Tribes, National Marine Fisheries Service, Fish and Wildlife Service, Lemhi Model Watershed group, and others to conduct inventories and monitoring, develop management plans, and evaluate the effects of management. The Cascade Resource Area is a major player in the Jerusalem CRM being developed in cooperation with Idaho Fish and Game, the NRCS, USFS, Idaho Department of Lands, and livestock associations.

- Nevada BLM currently has 14 new partnership projects underway. All are directed at riparian area improvement; examples include aspen plantings on Dorsey Creek, stream surveys for Lahontan Cutthroats, Boy Scout protective fencing projects, and tamarisk control within an ACEC. These are just a few of the many fine partnership projects underway.
- In Utah, the Salt Lake District is in its third year of an intensive effort to improve and increase the size of wetland areas at Salt Wells on the north shore of Great Salt Lake. In 1997,

the district finished installing the initial diking system. Benefits from the resulting increase in riparian-wetland habitat will include more open water for ducks and geese and an increased food source for shore birds that inhabit the Great Salt Lake. This project was made possible through cooperation with the Utah Division of Wildlife Resources and the Utah Reclamation Mitigation and Conservation Commission.

- As in past years, Wyoming's Great Divide Resource Area's participation in the Upper Muddy Creek Watershed CRM group continues to address management issues in the Muddy Creek Riparian Showcase Area; cooperators include the BLM, NRCS, Wyoming Game and Fish, Little Snake Conservation District, Seeking Common Ground, Carbon County Extension, private landowners, Trout Unlimited, and the Rocky Mountain Elk Foundation. All activity plans (CRMPs, AMPs, etc.) involving riparian habitats are developed through interdisciplinary cooperation between range, wildlife, fisheries, soils, hydrology, forestry, and recreation specialists both from within the Bureau and from other agencies, along with coordination with private landowners/permittees and other outside interest groups.

Other Examples of Riparian-Wetland Partnerships and Interdisciplinary Coordination

State	Office	Project Area(s)/ Activity	Partnership
Colorado	Little Snake	Axial Basin	CRM Group
Colorado	Little Snake	Bald Mtn. Basin	CRM Group
Colorado	Little Snake	Sandwash Basin	CRM Group
Colorado	Little Snake	NW Colorado HPP	CDOW & Landowners
Colorado	Kremmling	Owl Mtn. Project and Water Study	Owl Mtn. Partnership
Colorado	Kremmling	Independence Mtn.	North Park HPP
Colorado	White River	Square S Plan	CDOW, permittees

Other Examples of Riparian-Wetland Partnerships and Interdisciplinary Coordination *(continued)*

State	Office	Project Area(s)/ Activity	Partnership
Colorado	Uncompahgre	San Miguel Watershed Study	Local gov't, Federal agencies, County gov't, Interested publics, CDOW, NRCS, EPA, & many others
Colorado	Gunnison	Sheeps Gulch Rd.	Quail Unlimited
Colorado	Gunnison	Chance Gulch Riparian Stabilization	Pheasants Forever
Colorado	San Juan	Dry Creek Basin	Dry Creek Coordinated Planning Group
Colorado	Royal Gorge	Rye Slough Acquisition	Rocky Mountain Elk Foundation
Colorado	Glenwood Spr.	Carr Creek	CDOW, Trout Unlimited, landowner
Idaho	Cascade	Jerusalem CRMP	USFS, Idaho Dept. of Lands, National Resource Conservation Service (NCRS), Idaho Fish & Game, Permittee
Nevada	Winnemucca	Riparian Bird Survey	Nevada DOW
Nevada	Carson City	Lemmon Valley Wetland Project	Lahontan Audubon, Washoe County, Nevada Air Guard
Nevada	Elko	Dorsey Creek	SWEAT
Nevada	Las Vegas	Gold Butte ACEC Protective Fencing	Clark County & HCP signatories
Nevada	Ely	Virginia Dale Spring	White Pine Conservation District, Permittee
Nevada	Battle Mtn.	Lockes Pond	Nat'l. Fish & Wildlife Foundation, Nevada DOW
Utah	Richfield	Purple Loosestrife Eradication	Millard Co., Utah State University Extension Service, USFWS, Private landowners
Utah	Salt Lake	Big Creek Biological Control Agent Study	Utah State University
Utah	Cedar City	Musk Thistle Control	Garfield County
Wyoming	Great Divide	Cooperative Mgmt Plans	Wyoming Game and Fish Dept., Little Snake River Cons. District, Carbon County Extension, NRCS, Water for Wildlife, Seeking Common Ground, USFS, University of Wyoming, Wild Horse Groups, BIA, Recreationists, Wyoming Wildlife Federation, Trout Unlimited, Wyoming Flycatchers

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